

REC'D 16 FEB 2000

WIPO PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference 1038-862 MIS:ja	<b>FOR FURTHER ACTION</b>		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/CA98/01065	International filing date (day/month/year) 13/11/1998	Priority date (day/month/year) 14/11/1997	
International Patent Classification (IPC) or national classification and IPC C12N15/86			
Applicant CONNAUGHT LABORATORIES LIMITED et al.			

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.
  - ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

- This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand  10/06/1999	Date of completion of this report  10.02.00
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel: +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Stolz, B   Telephone No. +49 89 2399 8416

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/CA98/01065

**I. Basis of the report**

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

**Description, pages:**

1-13 as originally filed

**Claims, No.:**

1-14 as originally filed

**Drawings, sheets:**

1/39-39/39 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/CA98/01065

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	6, 7, 10, 13, 14
	No:	Claims	1-5, 8, 9, 11, 12
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-14
Industrial applicability (IA)	Yes:	Claims	1-14
	No:	Claims	

**2. Citations and explanations**

**see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/CA98/01065

1. Reasoned statement

1.1. The application describes expression vectors derived from alpha viral sequences comprising at least one heterologous splice site so as to prevent aberrant splicing.

1.2. Novelty (Art. 33(2) PCT)

Claims 1 to 5, 8, 9, 11, and 12 lack novelty in light of WO96/17072 (D1). This document describes alpha virus derived layered vector initiation systems comprising all the features of the above mentioned claims. These vectors are derived from Sindbis virus, a member of the SFV complex. Vectors comprising splice recognition sequences and catalytic ribozyme processing sequences, as well as the reasons for using these sequences, are mentioned in section F and in example 2, in particular on p. 12, lines 2 to 4; p. 37, lines 21 to 30; p. 65, lines 4 to 8, use of any intron; p. 84, lines 24 to 26, use of the hepatitis delta ribozyme sequence; p. 85, lines 18 to 19; and p. 92, lines 19 to 24, use of an SV40 intron. In conclusion, D1 takes away the novelty of the above mentioned claims.

1.3. Inventive step (Art. 33(2) PCT)

In light of D1, the contribution of the present application to the art can be seen in the provision of alternative alpha virus derived vectors.

The remaining claims differ from D1 by the use of a particular intron from rabbit beta-globin. This intron sequence and its usefulness have long been known in the art (e.g. WO96/40945, p. 23, lines 18 to 23). Thus, the selection of this sequence as an alternative to the one used in D1 represents merely a selection from a larger number of candidate intron sequences known to the person of skill. In the absence of a demonstrated unexpected effect in comparison with the vectors described in D1, such a selection is considered to be arbitrary. Hence, the more generically defined constructs of claims 6 and 7, as well as the specifically defined constructs of claims 13 and 14 lack inventive step.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/CA98/01065

2. Certain observations

- 2.1. Claim 9 appears to contain an incorrect statement in line 22 where it says that the splice site should permit aberrant splicing. Furthermore, the statement on line 8 and on the first half of line 9 is confusing. The immediately following lines demand the presence of the complete alpha virus genome.
- 2.2. Claim 13 is unclear due to the reference to Fig. 8D. This figure summarizes some features while leaving others unclear. The vector carries a particular designation, thus one could assume it to correspond to one particular construct disclosed in the description. On the other hand, the exact position of the beta-globin intron sequence cannot be deduced from the figure alone, and the figure specifies only "Ribozyme". It is therefore unclear if claim 1 is directed to only one particular vector construct or to a whole group of vector constructs defined by Fig. 8D.

## PATENT COOPERATION TREATY

PCT

NOTIFICATION TO THE DESIGNATED OFFICE  
OF RECEIPT OF RECORD COPY

(PCT Administrative Instructions, Section 426)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as designated Office

Date of mailing (day/month/year)

19 February 1999 (19.02.99)

Applicant's or agent's file reference

1038-862 MIS

The designated Office is hereby notified that the International Bureau has received the record copy of the international application identified below:

Applicant(s):

CONNAUGHT LABORATORIES LIMITED

International application No. : PCT/CA98/01065  
International filing date : 13 November 1998 (13.11.98)  
Priority date(s) claimed : 14 November 1997 (14.11.97)  
Date of receipt of the record copy  
by the International Bureau : 01 December 1998 (01.12.98)

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Eugénia Santos

Telephone No.: (41-22) 338.83.38

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

<b>Date of mailing</b> (day/month/year) 05 August 1999 (05.08.99)	
<b>International application No.</b> PCT/CA98/01065	<b>Applicant's or agent's file reference</b> 1038-862 MIS
<b>International filing date</b> (day/month/year) 13 November 1998 (13.11.98)	<b>Priority date</b> (day/month/year) 14 November 1997 (14.11.97)
<b>Applicant</b> PARRINGTON, Mark	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

10 June 1999 (10.06.99)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election
- ☒
- was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Ting Zhao Telephone No.: (41-22) 338.83.38
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## PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

To:

STEWART, Michael  
6th floor  
330 University Avenue  
Toronto, Ontario M5G 1R7  
CANADA

Date of mailing (day/month/year) 05 August 1999 (05.08.99)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 1038-862 MIS	
International application No. PCT/CA98/01065	
	International filing date (day/month/year) 13 November 1998 (13.11.98)

## 1. The following indications appeared on record concerning:

☒ the applicant
 ☒ the inventor
 ☐ the agent
 ☐ the common representative

Name and Address	State of Nationality	State of Residence
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

## 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☒ the person
 ☐ the name
 ☐ the address
 ☐ the nationality
 ☐ the residence

Name and Address KLEIN, Michel 16 Munro Boulevard Willowdale, Ontario M2P 1B9 Canada	State of Nationality CA	State of Residence CA
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

## 3. Further observations, if necessary:

The person in Box 2 has been added as an inventor and an applicant for US.

## 4. A copy of this notification has been sent to:

☒ the receiving Office
 ☐ the designated Offices concerned  
☐ the International Searching Authority
 ☒ the elected Offices concerned  
☒ the International Preliminary Examining Authority
 ☐ other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Ting Zhao Telephone No.: (41-22) 338.83.38
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## PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

To:

STEWART, Michael  
Sim & McBurney  
330 University Avenue  
Toronto, Ontario M5G 1R7  
CANADA

Date of mailing (day/month/year)

16 August 1999 (16.08.99)

Applicant's or agent's file reference

1038-862 MIS

## IMPORTANT NOTIFICATION

International application No.

PCT/CA98/01065

International filing date (day/month/year)

13 November 1998 (13.11.98)

## 1. The following indications appeared on record concerning:

☐

the applicant

☐

the inventor

☒

the agent

☐

the common representative

Name and Address

STEWART, Michael  
6th floor  
330 University Avenue  
Toronto, Ontario M5G 1R7  
Canada

State of Nationality

State of Residence

Telephone No.

(416) 595-1155

Facsimile No.

(416) 595-1163

Teleprinter No.

## 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐

the person

☐

the name

☒

the address

☐

the nationality

☐

the residence

Name and Address

STEWART, Michael  
Sim & McBurney  
330 University Avenue  
Toronto, Ontario M5G 1R7  
Canada

State of Nationality

State of Residence

Telephone No.

(416) 595-1155

Facsimile No.

(416) 595-1163

Teleprinter No.

## 3. Further observations, if necessary:

**The indication of a new address of the agent on the demand has been considered as a request for recording a change under Rule 92bis. In case of disagreement, the International Bureau should be notified immediately.**

## 4. A copy of this notification has been sent to:

☒

the receiving Office

☐

the designated Offices concerned

☐

the International Searching Authority

☒

the elected Offices concerned

☒

the International Preliminary Examining Authority

☐

other:

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Yolaine CUSSAC

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Telephone No.: (41-22) 338.83.38